Feasibility of an Immediate Rapid Reversal of Warfarin Protocol using a Four-Factor Prothrombin Complex Concentrate in the Emergency Department

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BACKGROUND

- 4 Factor Prothrombin Complex Concentrate (4F-PCC) is indicated for the urgent reversal of warfarin.
- The package insert (FDA approved dose) for warfarin reversal in adult patients with acute major bleeding or in need of emergent surgery is based on INR and patient’s weight.
- In July 2014 a protocol was instituted by a multidisciplinary team to provide an immediate fixed low dose of 4F-PCC.
- The protocol was implemented as a process improvement initiative to minimize delays in treatment while waiting for INR results.
- As a standard of practice our institution monitors all pre and post INR values when 4F-PCC is issued.

OBJECTIVE

To explore the feasibility of a protocol allowing for immediate use of a lower dosage 4F-PCC prior to obtaining an INR result in the Emergency Department (ED).

METHODS

This is an on-going, IRB approved prospective cohort study using a convenience sample of adult patients who presented to the ED and were enrolled in the 4F-PCC protocol to reverse warfarin.

- The setting is a suburban tertiary care hospital with an annual ED census of 88,000 patients.
- This current analysis reflects data collected from November 2013 through August 2015.

RESULTS

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<tr>
<th>DEMOGRAPHICS</th>
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<tbody>
<tr>
<td>Gender</td>
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<tr>
<td>Median age</td>
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<tr>
<td>Median BMI</td>
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<tr>
<td>ICU admission</td>
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<td>ICU Length of Stay (median)</td>
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<td>Total Hospital LOS (median)</td>
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<td>Transferred from OSH</td>
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- Bleed types: included intracranial hemorrhage (50), gastrointestinal (22), orthopedic (2), hematuria (1), retroperitoneal (1), peritoneal (1), other (14).
- Mean initial INR: 4.24 (95% CI 3.65, 4.84)
- Mean post-4F-PCC INR: 1.62 (95% CI 1.54, 1.71)
- Subsequent 4F-PCC doses: 2nd dose: 10 patients; 3rd dose: 3 patients; 4th dose: 1 patient
- Median cost savings: $1,301.43

CONCLUSIONS

- Our protocol providing the immediate release of a fixed lower dose 4F-PCC is feasible.
- It was potentially effective in reversing warfarin and eliminating the delay caused by INR measurement as written in the FDA-approved package insert.

CONTACT INFORMATION

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The authors have no financial relationships or affiliations to disclose.